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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,361	03/05/2002	Phil Delurgio	DEM1P010	9613
36088	7590	08/01/2005	EXAMINER	
KANG LIM 3494 CAMINO TASSAJARA ROAD #436 DANVILLE, CA 94306			OUELLETTE, JONATHAN P	
			ART UNIT	PAPER NUMBER
			3629	

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/092,361

Applicant(s)

DELURGIO ET AL.

Examiner

Jonathan Ouellette

Art Unit

3629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20050531</u> . | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. **Claims 1-8 and 15-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

The basis of this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

3. As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA

Art Unit: 3629

1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

4. Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).
5. This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts".

The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

Art Unit: 3629

6. In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.
7. The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding

Art Unit: 3629

the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

8. Claims 1-8 and 15-20 appear to be describing a method that is attempting to sell a price management technique, whereas a group of stores are grouped based on current store/pricing information. Thus, this process does not include a distinguishable apparatus, computer implementation, or any other incorporated technology, and would appear to be an attempt to patent an abstract idea not a "tangible" process and, therefore, non-statutory subject matter.
9. As to technological arts recited in the preamble, *mere recitation in the preamble (i.e., intended or field of use) or mere implication of employing a machine or article of manufacture to perform some or all of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breathe life and meaning into the preamble.*
10. Mere intended or nominal use of a component, albeit within the technological arts, does not confer statutory subject matter to an otherwise abstract idea if the component does not apply, involve, use, or advance the underlying process.

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3629

**12. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Woo et al.**

**(US 6,910,017 B1).**

13. As per **independent Claims 1 and 8**, Woo discloses a computer-implemented method

(apparatus) for forming a plurality of stores into a plurality of clusters (location hierarchy),

comprising: collecting a store specific information; providing optimized combinations for

each individual store based on the store specific information (C3 L64-67, C4 L1-47); and

optimizing prices for a plurality of products for at least one of the plurality of clusters, and

wherein the optimizing of process uses demand coefficients, cost coefficients and

optimization rules (C2 L53-67, C3 L1-63, Claim 2).

14. Woo fails to expressly disclose, “creating a plurality of clusters based on the closeness of the optimal combinations.”

15. However, Woo does disclose aggregating historical data into item classes and subclasses in accordance with an item hierarchy – to include location hierarchy (C3 L64-67, C4 L1-47).

Woo also discloses using the historical information (including demand and cost of sales information) to determine optimal pricing information (C2 L53-67, C3 L1-63, Claim 2).

16. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included creating a plurality of clusters based on the closeness of the optimal combinations (locations), as the same information is collected and analyzed by the system/method disclosed by Woo, and would be simply integrated into any price management system.

17. As per Claims 2 and 9, Woo discloses providing cluster based combinations (location hierarchy).

Art Unit: 3629

18. As per Claims 3 and 10, Woo discloses wherein the store specific information is selected from a group comprising point-of-sales data, customer survey data, and cost data.
19. As per Claims 4 and 11, Woo discloses wherein the combinations *are* selected from a group comprising item and price, assortment, and promotion combinations.
20. As per Claims 5 and 12, Woo discloses wherein creating the plurality of clusters, comprises: providing at least one constraint; and placing stores that meet the constraints and with the closest optimal combinations in the same cluster of the plurality of clusters (common practice in cluster pricing/price management).
21. As per Claims 6 and 13, Woo discloses wherein the at least one constraint places two stores in the same cluster, by making each store of the two stores have the same optimal combination (common practice in cluster pricing/price management).
22. As per Claims 7 and 14, Woo discloses wherein the at least one constraint specifies a maximum number of clusters (common practice in cluster pricing/price management).
23. As per **independent Claim 15**, Woo discloses a computer-implemented method for forming a plurality of stores into a plurality of clusters (location hierarchy), comprising: performing an optimization for the plurality of stores to obtain individual store prices; performing an optimization for the plurality of clusters (location hierarchy) to obtain cluster prices (C3 L64-67, C4 L1-47); and optimizing prices for a plurality of products for at least one of the plurality of clusters (location hierarchy), and wherein the optimizing of process uses demand coefficients, cost coefficients and optimization rules (C2 L53-67, C3 L1-63, Claim 2).
24. Woo fails to expressly disclose, “creating a plurality of clusters based on the closeness of the optimal combinations.”



Art Unit: 3629

25. However, Woo does disclose aggregating historical data into item classes and subclasses in accordance with an item hierarchy – to include location hierarchy (C3 L64-67, C4 L1-47).

Woo also discloses using the historical information (including demand and cost of sales information) to determine optimal pricing information (C2 L53-67, C3 L1-63, Claim 2).

26. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included creating a plurality of clusters based on the closeness of the optimal combinations (locations), as the same information is collected and analyzed by the system/method disclosed by Woo, and would be simply integrated into any price management system.

27. As per Claim 16, Woo discloses wherein the performing the optimization for the plurality of stores comprises: collecting point-of sales data; modeling the point of sales data; and providing an optimization based on the modeled point of sales data.

28. As per Claim 17, Woo discloses wherein the using the individual store prices to create the plurality of clusters, comprises: providing at least one constraint; and placing stores that meet the constraints and with the closest individual store prices in the same cluster of the plurality of clusters (common practice in cluster pricing/price management).

29. As per Claim 18, Woo discloses wherein the at least one constraint prohibits two stores of the plurality of stores from being in the same cluster (common practice in cluster pricing/price management).

30. As per Claim 19, Woo discloses wherein the at least one constraint places two stores in the same cluster, by averaging the prices of an item and placing the average price as the price of the item in each store (common practice in cluster pricing/price management).

Art Unit: 3629

31. As per Claim 20, Woo discloses wherein the at least one constraint places stores with geographical closeness in the same cluster (common practice in cluster pricing/price management).

*Response to Arguments*

32. Applicant's arguments filed 5/12/05, with respect to Claims 1-20, have been considered but are moot in view of the new ground(s) of rejection.

33. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

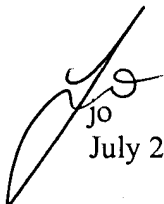
Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

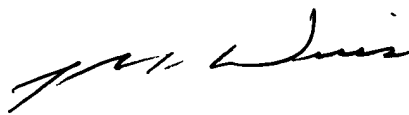
34. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 3629

***Conclusion***

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Ouellette whose telephone number is (571) 272-6807. The examiner can normally be reached on Monday through Thursday, 8am - 5:00pm.
36. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Weiss can be reached on (571) 272-6812. The fax phone numbers for the organization where this application or proceeding is assigned (571) 273-8300 for all official communications.
37. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Office of Initial Patent Examination whose telephone number is (703) 308-1202.

  
jo  
July 25, 2005

  
JOHN G. WEISS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600